factors lower than the prevailing rate of inflation would lead to rate increases and are inappropriate: We, therefore, set the productivity factor equal to the prevailing rate of inflation by suspending the application of the Gross Domestic Product Price Index (GDPPI) minus productivity factor ("X") formula until completion of a future review to be conducted within three years. At the same time, we find it appropriate and reasonable for consumers to impose a rate freeze by capping the prices of Category I and Category II services at currently effective rates for Pacific Bell and for GTE California. In future review, we will reevaluate the efficacy of the price cap formula to consider the appropriate regulatory policy based on the facts available at that time.

We conclude that the policy of freezing the cap on prices that we adopt today protects consumers by helping to maintain current low prices during a period of rapid market changes. This policy offers an opportunity of fair returns to shareholders by moving regulation of local exchange carriers (LECs) in a market direction. In freezing the cap on prices, we impose no new limitations on the pricing flexibility of Pacific and GTEC currently have.

We conclude further that in an era in which the price cap formula is producing price <u>reductions</u>, the resulting declines in revenues can jeopardize a firm's ability to finance capital investments, particularly infrastructure.

Further, a policy of capping prices is consistent with our goal of adjusting regulation to reflect changing market conditions. We conclude that competition occurs <u>at the margins</u> and that the evidence in the record supports the modest regulatory step that we take today.

In conclusion, for all these reasons, we adopt a policy of freezing the price caps on Category I and Category II services at current levels, and suspend the application of the GDPPI minus "X" formula.

Background

In Decision (D.) 89-10-031, issued October 12, 1989, the Commission adopted the NRF to replace traditional cost-of-service regulation for Pacific and GTE California Incorporated (GTEC). To promote the Commission's articulated regulatory goals,[2] the NRF joined incentives for the state's two largest

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[2] The Commission defined its regulatory goals as: (1) universal service; (2) economic efficiency; (3) encouragement of technological advance; (4) financial and rate stability; (5) full utilization of the local exchange network; (6) avoidance of cross-subsidies and anticompetitive behavior; and (7) low-cost, efficient regulation.

local exchange carriers (LEC) with safeguards for captive ratepayers and broad-based Commission monitoring.

D.89-10-031 (The Phase II decision) further provided for a focused Commission review of the NRF in 1992. While the order specified several issues that were to be assessed in the review, it acknowledged that the possibility of unforeseen circumstances discouraged the premature delineation of what precise aspects of the framework would later be ripe for review. For the initial review, the Commission determined that the examination would not be "overly broad and all encompassing",[3] and it would not reopen the issue of whether there should be incentive-based regulation. Rather, as provided under the Phase II decision, we undertook the review as the opportunity to "evaluate the effectiveness of the chosen details and balance in the adopted regulatory framework, and to make any mid-course corrections"[4] that might be needed. D.94-06-011 was the product of our recalibration, evaluation and refinement.

The Phase II decision directed Pacific and GTEC, in the initial review, to "file applications and supporting testimony...

[3] D.94-06-011, mimeo. at 3.

[4] 33 CPUC 2d 43 at 203.

for review of operations of the adopted... framework."[5] However, the Commission determined, at the conclusion of Applications 92-05-002 and 92-05-004, that undertaking the NRF review through the application process diverted a substantial amount of time. We estimated that approximately nine months of the proceeding were devoted solely to responding to the companies' original applications, developing and refining issues and revising testimony. The Commission sought to substantially reduce that time, immediately focus the parties and get the maximum amount of participation from the interested parties in the next review. Therefore, we modified the existing procedure and decided to initiate the next review of NRF by issuing an Order Instituting Investigation (OII).

In D.94-12-053, we directed the parties to meet for 90 days to attempt to negotiate, among other topics, a resolution of the issues related to NRF review and an agreement on "how and when...reform" of the NRF could be achieved.[6] We further stated that the Commission would move forward on any topics the parties were unable to settle. In order to keep the review on track, we concurrently modified Ordering Paragraph 27 of D.94-06-011 to

[5] 33 CPUC 2d 43 at 236.

[6] D.94-12-053 at 2 and 6.

hold that "The next review shall be initiated in May, 1995 by an [OII]." The March 31, 1995 report[7] of the parties advised the Commission that the participating parties "discussed and attempted to reach agreement on... Review of the New Regulatory Framework," but "did not reach settlement." Accordingly, on May 24, 1995, we initiated this OII and started the necessary examination integral to the framework and the future.

In the OII, the Commission directed all respondents and interested parties to file a July 19, 1995, opening statement and an August 2, 1995 reply statement of the issues they believed should be addressed in the review.[8] The OII stated that further scheduling would be set later.

On June 26, 1995, Pacific filed an "emergency petition"[9] requesting that the Commission modify the OII to specify the initial issues that the company believed should be addressed in a first phase of the proceeding. Pacific asked that the review of these initial issues be completed before January 1, 1996. The company requested that the Commission determine what

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[7] OII, p. 4 at Ordering Paragraph (OP) 3 and OP 5.

[8] OII, p.4 at Ordering Paragraph (OP) 3 and OP 5.

[9] "Emergency Petition of Pacific Bell for Modification of OII 95-05-047 to Facilitate an Expeditious Review of the NRF Structure."

level of productivity factor, if any, it should apply beginning January 1, 1996. Pacific maintained that its current 5% productivity factor was adopted only for the years 1994 and 1995. Moreover, Pacific argued that the "telecommunications market is undergoing dramatic changes that have vastly altered the environment that existed when NRF was first established in 1990." (Emergency Petition at 2.) The company asserted that expedited review was imperative to ensure that the present NRF regulatory structure would be compatible with the telecommunications market in which it will operate in 1996 and beyond.

On July 10, 1995, five parties filed responses to Pacific's petition.[10] No party objected to a bifurcation of the issues of the OII. Each party agreed that the proposed issues framed by Pacific were integral. However, the parties disagreed about which issues the Commission should consider in the initial phase and the pace under which the OII should proceed. CWA and CTC-California agreed with Pacific's request that the initial

[10] The Communications Workers of America, AFL-CIO (CWA), the Commission's Division of Ratepayer Advocates (DRA), Citizens Telecommunications Company of California, Inc. (CTC-California), the California Telecommunications Coalition (Coalition) and GTEC filed pursuant to an Administrative Law Judge's Ruling granting Pacific's motion to shorten time to respond to the petition.

phase be expedited. DRA and the Coalition[11] strongly disagreed with the proposed expedited schedule. GTEC declared that a less immediate pace than that proposed by Pacific would be feasible if the local competition proceeding timetable remained relatively unchanged.

On July 19, 1995, the Commission granted Pacific's petition in part and modified the OII to expedite Phase I. Evidentiary hearings[12] were held on September 26-28 and October 2-3 and 5-6, 1995.[13] Concurrent briefs were filed on October 13, 1995.

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[11] The Coalition comprises AT&T Communications of California (AT&T), Inc.; California Association of Long Distance Telephone Companies; California Cable Television Association (CCTA); California Committee for Large Telecommunications Consumers (CCLTC); California Payphone Association; ICG Access Services, Inc.; MCI Telecommunications Corp. (MCI); MFS Intelenet, Inc.; Sprint Communications Co., L.P.; Teleport Communications Group; Time Warner AxS of California, L.P.; and Toward Utility Rate Normalization (TURN). For this proceeding, CCLTC appears independent of the Coalition.

[12] The Coalition's appeal of the ALJ's August 18, 1995 scheduling ruling is denied.

[13] Pacific's September 1995 Motion for a Protective Order is granted.

Issues

In this initial phase, we have narrowed our focus to three issues which reflect the Commission's questions, the concerns of Pacific and the responses of the other parties: (1) Should GDPPI minus "X" (inflation minus productivity factor) in the price cap formula be modified or eliminated? (2) Should the price cap formula be applied to all Category I and Category II services, or solely to Category I services? and (3) Should implementation of NRF modification be ordered in stages contingent on achieving milestones?

A. Should GDPPI Minus "X" (Inflation Minus Productivity Factor) in the Price Cap Formula be Modified or Eliminated?

Positions of the Parties

Pacific

Pacific proposes that the Commission eliminate the GDPPI minus "X" formula. The company maintains, through the testimony of witness Dr. Robert G. Harris (Exhibits 14 and 15), that: (1) competition in California is rapidly accelerating; (2) Pacific's competitors are strong and sophisticated; and

(3) technological changes, demand composition, and regulation have greatly reduced barriers to entry. Pacific witness Dr. Richard L. Schmalensee (Exhibits 1 and 2) testified that the company's proposal, in light of the state's changing competitive environment, is economically sound.

Pacific contends that the California market has been transforming in response to changes in technology that make it easier and cheaper for competitors to enter its markets. These changes decrease entry barriers and, simultaneously, increase competition among various forms of communication. The company declares that large and small business customers, as well as more sophisticated residential users, are demanding "a different mix of services than they did in the past":[14] voice, data, image and video applications. Pacific maintains that these customers want "packages of services and products" or "one-stop shopping," which the company, to its competitive disadvantage, is unable to provide.

Harris testified that the extent to which the demand for telecommunication services is highly concentrated among customers and classes of services facilitates targeted entry. He stated that it also makes the company vulnerable to competitive losses. Harris noted that nearly 70% of Pacific's access lines

[14] Brief of Pacific at 9.

are located in the two major metropolitan areas of Los Angeles and San Francisco, with 85% of the company's business toll revenues located in just 6% of California's land mass.[15] Further, Pacific's Centrex service serves about 11% of business telephone system lines.[16] Between 1993 and 1994, according to Dr. Harris, the competitor share of high capacity services more than doubled to 37% in San Francisco and increased by a third to 39% in Los Angeles.[17]

Dennis W. Evans attested that the rewards the Commission intended when it adopted the incentive-based regulatory framework have not materialized for Pacific, in spite of the company's highly efficient management of its operations. Mr. Evans argues that the "surrogate for competition (the price cap formula) has been rendered unnecessary by the existence of strong and growing competition."[18] He states that the three broad performance measures of operating expenses, revenues, and net income demonstrate Pacific's performance under the incentive-based regulatory approach.

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[15] Exhibit 14 at 7.

[16] Id. at 14.

[17] Id.

[18] Exhibit 29 at 6.

From 1985 through 1989, Mr. Evans testifies, Pacific reduced its cost per average access line 5.92%, distinguishing itself with the best percentage improvement of the seven Regional Bell Operating Companies (RBOC) over this time period. Of the seven RBOCs, Pacific had the lowest total operating expense per average access line in 1994.[19] In contrast, Evans declares, Pacific experienced the lowest total revenue growth of any of the RBOCs from the end of 1989 through 1994, comparing either the percentage changes in revenues from 1989-1994 or the compound annual growth rates (CAGR) for 1989-1994.[20]

Mr. Evans included a chart, reprinted below, representing the cumulative amount by which the company's revenues have been reduced each year since the beginning of the NRF.

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[19] Id. at 8.

[20] Id. at 10, citing S.G. Warburg & Co. Inc., Telecommunications Services Statistical Summary Regional Bell Holding Companies and GTE, p. 20 (April 1995).

Incentive Regulation Revenue Reductions

Year	1990	1991	1992	1993	1994	1995	Total
Revenue Adjustment	($391M)	($114M)	($132M)	($12M)	($124M)	($232M)	($1005M)

Source: Exhibit 29 at 11.

He states that the revenue reductions reflect the impact of the introduction of incentive regulation, and include the effects of inflation, the productivity factor, and exogenous ("Z") factors. Witness Evans describes Pacific's net income performance under incentive regulation as "at best, mediocre." He observes that the deterioration in the company's financial performance caused the capital markets to react. A major credit rating company, Duff & Phelps, Evans notes that:

> "cited significant rate reductions stemming from the high productivity factor (5%), the mounting competitive pressures, the opening of the `short-haul toll market' on January 1, 1995, and the Commission's proposed rules for local competition, as reasons for the lower debt rating."[21]

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[21] Id. at 14.

Dr. Schmalensee testified that Pacific's proposal to eliminate the price cap formula would substitute targeted price protection, requiring Commission approval of price changes for all Category I services (including basic access for residential and small business customers), for the current across-the-board price reductions. He outlined three benefits of the plan. First, the proposal would let the marketplace, rather than regulation, operate for services for which competition will provide price protection and other benefits such as increased innovation.[22] Second, customers would be protected by stable prices for services facing less effective competition in the near future.[23] Third, eliminating the formula removes the economically inefficient practice of price reductions for those already below-cost Category I services.[24]

Dr. Laurits Christensen sponsored his productivity study of the telecommunications industry as the quantitative basis for Pacific's alternative proposal to modify GDPPI minus "X" (should the Commission reject elimination) by replacing the current 5% productivity factor with 2.1%. Dr. Christensen

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[22] Exhibit 1 at 1 and 10.

[23] Id. at 1 and 24-25.

[24] Id. at 1, 26 and 28-29.

declares that his study's 2.1% productivity offset is based on "the long term TFP[25] growth differential between the U.S. telephone industry and the US economy" and "will be a challenging offset for Pacific Bell."[26]

Dr. Christensen states that the price cap formula has two underlying ingredients: a measure of overall inflation, and an offset (the "X" factor) to the inflation measure. In theory, the "X" factor embodies: (1) the expected difference between the rate of telephone industry total factor productivity growth and the rate of economy-wide total factor productivity growth; and (2) the expected difference between the rate of telephone industry input price growth and the rate of economy-wide input price growth. Dr. Christensen estimates, based on his recent study of the post-divestiture LEC industry, that the telephone industry and economy-wide TFP growth differential is 2.1% per year. Dr. Christensen also presents the results of five previous TFP differential studies of telephone industry productivity.[27] The value of the TFP differential of the five studies range from 1.85% to 2.2%.

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[25] Total Factor Productivity.

[26] Exhibit 6 at 4.

[27] Id. at 9-16 and Appendix 1.

Pacific witness Christensen asserts that, as a result of his experience analyzing other Bureau of Labor Statistics (BLS) studies, his TFP study of the LEC industry is a close approximation to the anticipated BLS study. He contends that the BLS study, when eventually issued, will be using the same data as he used in his LEC study and will use similar methods of computing TFP. He outlines seven similarities between his methodology and that of BLS, and concludes with the expectation that the results of the BLS study will be very similar to his LEC study results.[28]

Dr. Christensen contends that the expected telephone industry and economy wide input price differential is zero[29] and, thus, should not be included in the "X" factor. He testifies to having recently submitted an Input Price Affidavit on behalf of the United States Telephone Association in Federal Communications Commission (FCC) Docket 94-1 that determines, on a going-forward basis, that "there is no conceptual or empirical basis for believing that LEC input prices will increase significantly more

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[28] Id. at 9.

[29] In Decision (D.) 94-06-011, the expected difference between the rate of input price growth of the two was referred to as the "W" factor.

slowly than input prices for the entire U.S. economy."[30] Dr. Christensen maintains that the result he determined holds for the full 1949-1992 period, as well as for the 1949-1984 and 1985-1992 sub-periods. He concludes that any observed short-term differences in input price growth cannot be properly construed as representing a difference in the underlying trends of input prices for the LECs and the entire U.S. economy.[31] He calculates, considering both elements, the appropriate "X" factor to be 2.1 percent.[32]

GTEC

GTEC proposes that the Commission eliminate the price cap formula for all Category II services, defined as either partially competitive or discretionary. The company contends that the Commission established the price cap mechanism to be a substitute for the workings of a market open to competition. Accordingly, continued use of the present formula in an environment where all the LECs' markets are open to competition will disadvantage the LECs. GTEC recommends that, if retained, the productivity factor should apply to Category I services and

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[30] Id. at 17.

[31] Id. at 18.

[32] Exhibit 6 at 4-5.

be based upon the most current measurements of TFP available, i.e., the updated Christensen study. Further, the productivity factor should be adjusted downward to compensate for the level of competition that the Commission expects will develop in California.

GTEC witness Timothy J. McCallion testified that in a competitive market the forces of competition restrain overall prices to the cost of production including a requisite rate of return.[33] The purpose of price cap regulation, he maintains, is to provide a better incentive for the LEC to operate more efficiently and to restrain monopolistic behavior in an environment where markets are not open to competition. Where markets are open to competition, he asserts, the marketplace, not regulators, should determine prices.[34]

Mr. McCallion reports that as a result of the current productivity factor, as well as other NRF related adjustments, GTEC's revenues during the period from 1992 to 1995 were reduced by $125.1 million. He states that the price cap mechanism has required the company to flow through productivity gains of

[33] Exhibit 27 at 10.

[34] Id. at 11.

approximately 25 percent since its inception in 1990.[35] McCallion further declares that GTEC cannot sustain index-related price decreases when its markets are open to competition. He insists that GTEC must be able to use the productivity gains it achieves to adjust prices in its most competitive service markets to respond to the actions of competitors who have no productivity index to control their pricing decisions.[36]

Mr. McCallion contends that regulation must reflect the practical effects of competition in a balanced way, so that the marketplace rather than the Commission determines which companies succeed and fail. He argues that a company cannot compete effectively in the long term when it is subjected to artificial restraints that are not placed upon its competitors.[37]

Dr. David E. M. Sappington testified that market forces must determine prices where competition exists, or the situation will encourage inefficient suppliers and dull or misdirect competitive forces.[38] He maintains that it is inappropriate to

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[35] Id.

[36] Id. at 12.

[37] Id.

[38] Exhibit 35 at 6-7.

continue to impose "GDPPI minus 'X'" regulation on incumbent "suppliers" when their markets are opened to competition.

Dr. Sappington suggests, first, that markets that are open to competition are fundamentally more risky for incumbents than markets closed to competition. Further, he asserts, when the discipline of price cap formula regulation is added to competition-imposed discipline, the earnings of incumbents are placed in "double jeopardy."[39]

Dr. Sappington briefly explains the risks facing incumbents. Markets open to competition are riskier because they are subject to the varied and often unpredictable activities of competitors. Different competitors adopt different pricing and marketing strategies, and try to improve products and reduce production costs in different ways. Diverse strategies and activities produce different products, different prices, and different cost structures. Customers, once loyal to incumbents, may also choose to purchase products and services in the newly competitive market. Consequently, customer demand and potential earnings become difficult to foretell.[40] The riskier a firm's earnings, the higher the expected earnings investors demand

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[39] Id. at 7.

[40] Id. at 8.

before they will provide capital to the firm. A reduction in the productivity factor provides a convenient means to increase expected earnings.

Dr. Sappington insists that measurement of competitors' share of the market is, overall, not an accurate gauge of either the strength or discipline of competition. He states that realized market share reflects only one dimension of a complex, multi-dimensional process. In addition, the threat of losing valued customers to competitors can provide just as much discipline for incumbents as the actual loss of these customers.[41] Thus, the absence of a pronounced market share for competitors does not necessarily reflect that potential competition is having little impact on the incumbent's performance. Instead, he recommends, the "likely impact of competition on earnings should be assessed in advance, and the asymmetric handicapping of incumbent suppliers should be reduced accordingly."[42] Dr. Sappington specifically denounces any "benchmark" proposal recommending that the productivity factor be based on the market share achieved by competitors.

GTEC witness Dr. Gregory M. Duncan testified that he

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[41] Id. at 19.

[42] Exhibit 35 at 27.

endorses both the analysis and results of the "Christensen study." He agrees with Dr. Christensen's assertion that there is no differential between local exchange carrier input prices and overall United States economy input prices that needs to be reflected. He maintains that if input prices were to deviate for one sector of the economy, as suggested by a number of parties, the economy as a whole would adjust to make that deviation smaller and eventually cause it to disappear.[43]

Dr. Duncan declares that to confirm Dr. Christensen's results on input prices, he ran a simple cointegration test between the local exchange carrier input price growth series used in the study and the LEC-United States price series used in FCC CC Docket No. 94-1, Appendix F. He also performed standard Autoregressive Integrated Moving-Average (ARIMA) analyses on each of the series and the difference between the series.[44] Dr. Duncan concludes that his findings support Dr. Christensen's study and parallel tests performed by the National Economic Research Associates.

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[43] Exhibit 37 at 7-8.

[44] Id. at 9.

DRA

DRA recommends that there be no change to the price cap formula other than a resetting of the productivity factor. DRA urges retention of GDPPI as the measure of inflation because it is a national index, readily available, and acknowledged as a reflection of general price changes in the economy. DRA further proposes that "X" be reset according to the most recent study of nationwide telecommunications TFP growth, adjusted by a input price proxy and a 50 basis point stretch factor.

DRA witness Hassan Mirza testified that the Commission not only anticipated intraLATA competition in the Phase II decision but also affirmed its view of a structure where NRF and competition coexist as recently as D.95-07-050, the universal service Order Instituting Rulemaking (OIR)/OII.[45] DRA maintains that it is inappropriate to eliminate the formula until the Commission has found that effective local competition exists. Mr. Mirza remarks that competition in local exchange markets will not evolve immediately, but over time. He argues that to presently eliminate the formula would leave most local exchange ratepayers, specifically residential and small business customers, in the worst of both worlds. There would be no

[45] Exhibit 58 at 2-2.

effective competitive alternatives and no ability to benefit from the further productivity improvements likely to occur due to continuing technological advancements and the effects of developing local competition.[46]

With respect to the impact of the productivity factor on Pacific's and GTEC's overall financial health, DRA stresses that the Commission set floors and ceilings on earnings as part of the price cap mechanism to protect shareholders and ratepayers from the risk that the formula as driven by "X" would sometimes under-or overestimate the earnings. Mr. Mirza notes that the Commission recognized that TFP studies and the adopted value of "X" (including the stretch factor) could not perfectly predict actual productivity.

DRA reports that Pacific's 1st and 2nd quarter 1995 financial results indicate that earnings per share are down from the same quarters in 1994.[47] DRA contends that while erosion in toll earnings has contributed to the downturn, several influences need to be analyzed. From January 1, 1995 through June 30, 1995 Pacific's 10Q filing with the SEC states that Pacific lost about 6% of the toll market it had as of January 1, 1995. Pacific

[46] Id. at 2-3.

[47] Id. at 2-5.

indicates that its market share of the "business" toll market was down 25% at this point. Later, citing updated total intraLATA toll market studies, Pacific states its overall "business" market share is about 60%. DRA cautions that this claim, based on unpublished market studies, is unverified.[48]

DRA witness Mirza asserts that 6 months of data may well be inadequate for the full elasticity effects (full stimulation) to be realized, and reliable conclusions to be drawn. He maintains that it is not clear at this juncture that Pacific's earnings will continue to erode because of toll competition. He points to the California economy and Pacific's actual productivity performance as contributing factors to the company's earnings showing.[49] Mr. Mirza declares that Pacific Telesis' rate of return on equity for the 6 months ending June 30, 1995 was about 20%, commensurate with many other telecommunications companies. For the 12-month period ending

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[48] Id. at 2-5.

[49] Citing Pacific's August 15, 1995 Intrastate Earnings Monitoring Report, DRA states the company's intrastate rate of return was about 9.4% for the 5 month period ending May 1995, 0.6% below the market rate of return of 10% adopted in D.94-06-011. DRA witness Mirza states that the still recovering California economy may best explain such a slight movement below the Commission-set market rate. Id. at 2-7.

June 30, 1995 Pacific Telesis Group reported a 20.9 percent rate of return on equity, Ameritech reported 27.2 percent, and Bellsouth reported 17.9 percent. The group composite for 11 telephone companies including Pacific Telesis was 21.0 percent.[50]

Dr. Thomas M. Renaghan testified that while the Commission rejected "the notion of making an explicit recognition of an LEC input price differential" in D.94-06-011, the FCC has recently taken a "more sympathetic view." Citing a FCC staff study[51], Dr. Renaghan states that estimates of the LEC input price differential before the FCC were based upon a comparison of telecommunications industry versus nationwide input price changes, rather than the company-specific data analyzed in D.94-06-011. He reports that the FCC's economists concluded that the inclusion of an input price differential in LEC price caps has a strong conceptual and empirical foundation.[52] Dr. Renaghan declares that on the basis of relative input shares, there is

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[50] Id. at 2-6, footnote 16.

[51] C. Anthony Bush and Mark Uretsky, Input Prices and Total Factor Productivity, Appendix F, FCC Docket, CC 94-1.

[52] Exhibit 58 at 5-5.